Docket No.: DE 030290

IN THE CLAIMS:

1. (Currently Amended) A device for generating a three-dimensional model of a spatial structure comprising:

an imaging unit for generating two-dimensional projection images of the structure from various directions;

a display unit that is coupled to the imaging unit for displaying one of the projection images as a reference image, in which connection the display unit comprises input means in order to make possible the interactive specification of at least one image point of the structure as a reference point;

a data processing device that is coupled to the imaging unit and the display unit and is designed to reconstruct a space point corresponding to the reference point of the structure from further projection images produced from other directions using the image-processing unit, wherein the space point is reconstructed by evaluating other image points of the further projection images that lie on a respective epipolar line of the reference point, ~~and~~ wherein gray scale values corresponding to the other image points are projected on a projection line of the reference point and added to form a sum profile and wherein said space point is defined as that position on the projection line of the reference point at which the sum profile assumes an extreme.

2. (Previously Presented) A device as claimed in claim 1, wherein the imaging unit is a rotation X-ray unit.

3. (Previously Presented) A device as claimed in claim 1, wherein the data-processing device is designed to reconstruct said space point utilizing further projection images that are obtained during different cardiac phases.

4. (Previously Presented) A device as claimed in claim 3, wherein the gray scale values are added punctiformly to form the sum profile.

5. (Previously Presented) A device as claimed in claim 1, wherein the sum profile is only

evaluated in a segment in which gray scale values of all the further projection images have contributed to the sum profile.

6. (Cancelled)

7. (Previously Presented) A device as claimed in claim 1, wherein the spatial structure has a linear route and the data-processing device is designed to reconstruct said linear route from a specification of a plurality of reference points situated on the reference image.

8. (Previously Presented) A device as claimed in claim 1, wherein the data-processing device is designed to determine a width of the spatial structure from a projection of a reconstructed three-dimensional model on projection images of the spatial structure.

9. (Previously Presented) A device as claimed in claim 1, further comprising:

a cyclic movement detector for determining spontaneous movement associated with the spatial structure, wherein the data-processing device is designed to use only those further projection images for the reconstruction of the space point that originate from the same phase of the spontaneous movement as the reference image.

10. (Currently Amended) A method for generating a three-dimensional model of a spatial structure comprising the following steps:

generating two-dimensional projection images of the structure taken from different directions, the images comprising a reference image and further projection images;

displaying the reference image;

obtaining a selection of at least one image point on the reference image of the spatial structure as a reference point;

determining a space point corresponding to the reference point of the spatial structure from the further projection images, wherein the space point is determined based on image intensity of other image points of the further projection images that lie on a respective epipolar line of the reference point, wherein gray scale values corresponding to the other image points are projected on a projection line of the reference point and added to form a sum profile for

determining the space point and wherein the space point is defined as that position on the projection line of the reference point at which the sum profile assumes an extreme.

11. (Cancelled)

12. (Previously Presented) The method of claim 10, further comprising obtaining the two-dimensional projection images using a rotation X-ray unit.

13. (Previously Presented) The method of claim 10, wherein the space point is reconstructed utilizing further projection images that are obtained during different cardiac phases.

14. (Previously Presented) The method of claim 11, wherein the gray scale values are added punctiformly to form the sum profile.

15. (Previously Presented) The method of claim 11, wherein the sum profile is only evaluated in a segment in which gray scale values of all the further projection images have contributed to the sum profile.

16. (Cancelled)

17. (Previously Presented) The method of claim 11, wherein the spatial structure has a linear route and is reconstructed from a specification of a plurality of reference points situated on the reference image.

18. (Previously Presented) The method of claim 11, further comprising determining a width of the spatial structure from a projection of a reconstructed three-dimensional model on projection images of the spatial structure.

19. (Previously Presented) The method of claim 11, further comprising:

determining spontaneous movement associated with the spatial structure using an electrocardiograph apparatus, and wherein only those further projection images are utilized for

the reconstruction of the space point that originate from the same phase of the spontaneous movement as the reference image.

20. (Currently Amended) A computer-readable storage medium comprising computer instructions for:

obtaining two-dimensional projection images of a spatial structure taken from different directions, the images comprising a reference image and further projection images;

displaying the reference image;

obtaining a selection of a reference point on the reference image;

determining epipolar lines for at least a portion of the further projection images, the epipolar lines being based on the reference point;

determining image intensity of image points of the further projection images that lie on the epipolar lines;

determining a space point corresponding to the reference point of the spatial structure from a summation of at least a portion of the image intensities, wherein the space point is defined as that position at which the summation assumes an extreme; and

generating a three-dimensional model of the spatial structure using the space point.